

What is claimed is:

1 1. A hot-swap device applicable to the ATA (AT Attachment) interface,
2 comprising at least an IDE hard disk drive (HDD) controller for processing
3 IDE instructions transferred from the ATA interface, wherein at least a
4 program code is provided to the IDE hard disk drive controller to respond to
5 the ATA interface "a virtual storage device" in the case of lacking a real
6 storage device connected to the IDE HDD controller via the ATA interface, or
7 if the program code is executed to connect "a real storage device" to the IDE
8 HDD controller via the ATA interface, connection of the IDE HDD controller
9 with the ATA interface is disabled so that the real storage device will respond
10 to the ATA interface directly.

1 2. The hot-swap device according to claim 1, wherein the program code for output
2 of "a virtual storage device" to the ATA interface is run by the IDE hard disk
3 drive controller to effect output of a virtual identifier (ID) table and a virtual
4 partition table to the ATA interface.

1 3. A hot-swap device applicable to the ATA (AT Attachment) interface,
2 comprising an integrated drive electronics (IDE) hard disk device controller for
3 processing IDE instructions transferred from the ATA interface, wherein at least
4 a program code is provided to the IDE hard disk drive controller for the same to
5 execute and respond to the ATA interface "a virtual storage device" in the case
6 of lacking a real storage device connected to the IDE hard disk drive controller,
7 or respond to the ATA interface "a real storage device" if the program code is
8 executed to connect a "real storage device" with the IDE hard disk drive.

1 4. The hot-swap device according to claim 3, wherein the real storage device is a
2 compact-flash memory storage device.

1 5. The hot-swap device according to claim 3, wherein the program code for output
2 of "a virtual storage device" to the ATA interface is run by the IDE hard disk
3 drive controller to effect output of a virtual identifier (ID) table and a virtual
4 partition table to the ATA interface.